

REMARKS/ARGUMENTS

Claim Status

Claims 1-13 are currently pending, with claims 1 and 10 being the only independent claims. Claims 1-12 have been amended. Claim 13 has been added. The amendments to claims 1-12 are merely cosmetic or clarifying in nature. No new matter has been added. Reconsideration of the application, as herein amended, is respectfully requested.

Overview of the Office Action

Claims 5, 7 and 9 have been objected to for being in improper form. Withdrawal of this objection is also now in order.

The drawings have been objected to for certain informalities. Withdrawal of this objection is now in order.

Claims 1-4 and 10-12 stand rejected under 35 U.S.C. §101 as directed to non-statutory subject matter. Withdrawal of this rejection is also now in order, as explained below.

Claims 1-3 and 10-11 stand rejected under 35 U.S.C. §103(a) as obvious over U.S. Publication No. 2002/0183984 (“*Deng*”) in view of U.S. Patent No. 6,125,208 (“*Maier*”).

Applicants have carefully considered the Examiner’s rejections and the comments provided in support thereof. For the following reasons, Applicants assert that all claims now presented for examination in the present application are patentable over the cited art.

Amendments Addressing Formalities

The Examiner has stated that “the current drawings are not written in English”. In response to this objection, applicants submit herewith replacement sheets containing FIG. 1a to

9, which have been revised to include descriptive text in English. No new matter has been added. Entry of the replacement sheets is respectfully requested.

Patentability of the Claims under 35 U.S.C. §101

Claims 1-7 stand rejected under 35 U.S.C. §101 as directed to non-statutory subject matter. In particular, the Examiner has stated that “[b]oth the method and device claims are drawn to an entirely software based system as described in the corresponding specification and disclosure. The claimed invention inputs a multimedia object and outputs a description, both of which are merely forms of data. Therefore, the full scope of the system and method claims encompass nothing more than software; i.e., computer program which is deemed ‘functional descriptive material’”. In response to the foregoing, Applicants have amended independent claim 1 to recite, *inter alia*, the step of “electing the multimedia objects having memberships in each type of said plural reference multimedia objects which form a majority of probabilities associated with each type of said plural reference multimedia objects considered and which are co-designated by an associated affinity relation using obtained probabilities that the unknown multimedia objects are members of different types of said plural reference multimedia objects in combination with a series of affinity relations between each type of said plural reference multimedia objects such that the multimedia objects having memberships in each considered type of said plural reference multimedia objects and the lower affinity to the elected multimedia objects having memberships in each type of said plural reference multimedia objects are excluded”. Independent claim 10 has been correspondingly amended.

The result achieved by the forgoing recitation is the exclusion of certain multimedia objects, i.e., the exclusion of elected multimedia objects having memberships in each type of plural reference multimedia objects. Independent claims 1 and 10 are thus limited to a practical

application that produces a useful, tangible and concrete result. In view of the foregoing, independent claims 1 and 10 as now amended are directed to statutory subject matter and, accordingly, reconsideration and withdrawal of the rejection under 35 U.S.C. §101 are in order, and a notice to that effect is requested.

Descriptive Summary of the Prior Art

Deng relates to “system and method for categorizing non-textual subject data on the basis of descriptive class labels (i.e., semantic descriptions or ‘descriptors’)” (see paragraph [0007]).

Maier relates to “a device for recognizing characters in a document with at least two writing recognition units, an evaluation device for evaluating the results of the writing recognition units with the aid of a database of rules for evaluating the sample recognized by the writing recognition units” (see col. 1, lines 4-9).

Summary of the Subject Matter Disclosed in the Specification

The following descriptive details are based on the specification. They are provided only for the convenience of the Examiner as part of the discussion presented herein, and are not intended to argue limitations which are unclaimed.

The specification discloses a system and method for automatically describing an unknown multimedia object in which the unknown object is associated with a plurality of reference multimedia objects depending on a probability of membership to each considered type of said plural reference multimedia objects such that multimedia objects having memberships in each considered type of said plural reference multimedia objects and a lower affinity to an elected multimedia objects having memberships in each type of said plural reference multimedia objects are excluded.

In particular, disclosed is a system and method that provides an answer to questions such as: I would like to find music tracks corresponding to “my taste”. The claimed invention is therefore directed to extracting characteristics from an isolated multimedia object that can be used to describe and compare the object to achieve a semantic characterization of the isolated multimedia object based on the probability of whether the object matches the extracted characteristics (see pg. 1, lines 14-17 of the specification as originally filed).

Patentability of the Independent Claims 1 and 10 under 35 U.S.C. §103(a)

Independent claim 1 has been amended to recite, *inter alia*, the step of “electing the multimedia objects having memberships in each type of said plural reference multimedia objects which form a majority of probabilities associated with each type of said plural reference multimedia objects considered and which are co-designated by an associated affinity relation using obtained probabilities that the unknown multimedia objects are members of different types of said plural reference multimedia objects in combination with a series of affinity relations between each type of said plural reference multimedia objects such that the multimedia objects having memberships in each considered type of said plural reference multimedia objects and the lower affinity to the elected multimedia objects having memberships in each type of said plural reference multimedia objects are excluded”. Independent claim 10 has been correspondingly amended.

The Examiner (at pgs. 5-6 of the Office Action) acknowledged that *Deng* fails to teach or suggest “using probabilities of membership to different types thus obtained in combination with a series of affinity relations between types, so as to elect memberships that are a majority in probability and are also co-designated by their affinity relations, so as to exclude memberships with a lower affinity with elected types”. *Maier* has been cited for this feature.

More specifically, the Examiner asserts that:

Maier compares the probabilities of character membership to each character type outputted from the multiple recognition units and selects the type with highest score from each recognizer, here the affinity relation is binary. This is evidenced by the first paragraph in column 4 of Maier.

Applicants disagree, however, that the combination of *Deng* and *Maier* achieve applicants' method and system recited in amended independent claims 1 and 10, respectively.

Maier discloses a method for recognizing characters in a document, where a method is disclosed that uses a plurality of writing recognition algorithms that are orthogonal to one another, as well as a decision mechanism to render a final decision when the output of these algorithms are different (see col. 1, lines 26-33 and lines 34-40).

Maier (col. 4, lines 3-13) explains that “[o]ne of the writing recognition units **30, 40** recognises in the character sample of FIG. 2 [either] the letter ‘M’ (reliability value: 80%) or the letter ‘N’ (reliability value: 50%). The other of the writing recognition units 30, 40 does not recognise only the letters ‘M’ (reliability value: 60%) and ‘N’ (reliability value: 50%), but also the character ‘*’ (reliability value: 30%). Since the preferred embodiment of the invention only processes further the recognised symbol with the highest reliability value, only the letters ‘M’ and the reliability value 60% or 80% are read into the character sample storage part **100**”. However, *Maier* fails to teach or suggest claims 1 and 10 as now amended.

Maier (col. 3, lines 30-31) states that “[r]ules which are employed for the process in accordance with the invention are stored in a rules data base **110**”. *Maier* (col. 6, lines 56-60) explains that “FIG. 6B shows the result after running through the rule data base **110** and calculating the lowest degree of fulfilment for each value. In this case, the values ‘Reco1’ and ‘Reco2’ have so low a degree of fulfilment that they do not appear on the figure. The degree of fulfilment of the value ‘Reject’ is considerably larger and the overall result of the novel writing

recognition process ‘fuzzy vote’ is consequently ‘Reject’, i.e. none of the recognised symbols are reliable”. *Maier* thus teaches the use of a rule database that determines whether a character recognized by one of these two algorithms should be retained according to a level of confidence (very low; low; medium; high; very high) of each of these algorithms”. However, *Maier* fails to teach or suggest the use of probabilities of membership obtained in combination with a series of affinity relations between types of multimedia objects, so as to elect memberships that form a majority probability in the multimedia objects and which are also co-designated by their affinity relation.

Independent claims 1 and 10 define that a membership to a wider category that includes only some of the desired types of objects is determined. This membership to a wider category finalizes an automated description of the multimedia object that is initially unknown. That is, the probabilities of membership to the different types of objects obtained is used in combination with a series of affinity relations between different types of objects, so as to elect memberships that are associated with probabilities that form a majority, and which are co-designated by their affinity relation such that memberships with a lesser affinity with the elected types of objects are excluded (see pg. 8, lines 15-29 of the specification as originally filed).

Maier teaches the use of multiple writing recognition algorithms. However, *Maier* fails to teach or suggest how to determine the membership of an unknown multimedia object to a wider category of multimedia objects when multiple writing recognition algorithms provide different results. That is, *Maier* fails to teach or suggest the electing step or the electing means of independent claims 1 and 10, respectively. The combination of the cited art thus fails to teach or suggest a method and system that could achieve the foregoing advantages that are encompassed by the method and system recited in independent claim 1 and 10, respectively.

Moreover, there is no reason for the skilled person to consider the teachings of *Maier* when seeking to improve the system of *Deng*. *Deng* relates to a method for categorizing non textual multimedia objects (i.e., image video, audio files) on the basis of their content. In contrast, *Maier* relates to the recognition of characters or textual information. Indeed, the Examiner has provided no reason to combine the teaching of *Deng* with the teachings of *Maier* so as to achieve applicants' claimed invention, other than a general statement that "the method of *Maier* is general purpose" and that "it is a trivial step to combine" the teachings of *Deng* and *Maier*. Therefore, the combination of *Deng* and *Maier* has been created using improper hindsight, based on applicants' disclosure.

In view of the foregoing, amended independent claims 1 and 10 are patentable over the combination of *Deng* and *Maier* for at least this reason. Withdrawal of the rejection under 35 U.S.C. §103(a) is therefore requested, and a notice to that effect is earnestly solicited.

Dependent Claim 3

In view of the patentability of independent claims 1 and 10, for the reasons presented above, each of dependent claims 2-9 and 11-12, as well as new dependent claim 13, is patentable therewith over the prior art. Moreover, each of these claims includes features which serve to even more clearly distinguish the invention over the applied references.

For example, the Examiner asserts that dependent claim 3 is achieved by the combination of *Deng* and *Maier*. Applicants disagree.

Deng discloses a method for categorizing non textual multimedia objects (i.e., image video, audio files) on the basis of their content. *Deng* teaches a classification system comprising a decision module 30 that utilizes a plurality of classification tasks to determine the best category for a given object, in a sequential and progressive manner. *Deng* (paragraph [0000] thru [0041];

FIG. 3) provides a detailed discussion of the apparatus for classifying an image. In block 54 of FIG. 3, an assumption occurs that the classification system detected an image within the outdoor class. The system then attempts to provide a better classification of the image by detecting within the image the features of the sky and, if this is the case, the features of the sunset. *Deng* (paragraph [0055]; FIG. 3) describes the hierarchy associated with the process that is implemented according to probabilistic conditions to provide this classification. *Deng* does not, however, teach or suggest the recitations of amended dependent claim 3.

Dependent claim 3 recites the step of “performing an automatic search in an information system with an Internet downloader and an Internet search engine to provide the group of multimedia objects is provided”. *Deng* (paragraph [0033]) expressly states that “[t]he system web-service module provides a front-end user interface by accepting classification requests from end-users through the Internet and analyzing the data prior to sending the result back to the users”. There is no teaching or suggestion within this section or any section of *Deng* that an automatic search for multimedia objects is performed. Rather, *Deng* teaches that classification requests are accepted from an end-user and the results of the search are sent back to the end-user. *Maier*, on the other hand, is silent with respect to the claimed subject matter of dependent claim 3. Therefore, the combination of *Deng* and *Maier* fails to achieve dependent claim 3 for at least this additional reason.

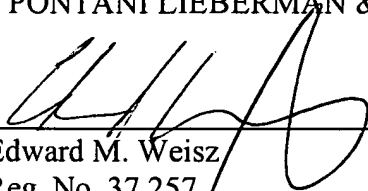
Conclusion

Based on all of the above, it is respectfully submitted that the present application is now in proper condition for allowance. Prompt and favorable action to this effect and early passing of this application to issue are respectfully solicited.

Should the Examiner have any comments, questions, suggestions or objections, the Examiner is respectfully requested to telephone the undersigned in order to facilitate reaching a resolution of any outstanding issues.

Respectfully submitted,
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